EN 17161:2019 integrated as a framework for continuous improvement of accessibility

Centre for Excellence in Universal Design

ALONE

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Introduction

ALONE is an organisation that works to manage the health of older persons and enable them to age well at home. A Sláintecare project conducted during 2020 – 2021 provided technology and a broad range of services to enhance self-management and community capacity related to older person's healthcare needs.

ALONE used the European standard [EN 17161: 2019 'Design for all – Accessibility following an Design for All approach in products goods and services – Extending the range of users'](#) ('EN 17161') as a framework in its Sláintecare project for addressing accessibility and usability. (As a process, the Design for All approach, as used in parts of Europe is the same as the Universal Design approach used in Ireland)

As a standard for continuous improvement of accessibility, EN 17161 describes a Universal Design approach that aligns with established management systems. It specifies requirements that enable an organization to design, develop and provide products, goods and services so that they can be accessed, understood and used by the widest range of users, including persons with disabilities.

ALONE recognised the value that a Universal Design approach can have for the Older People they serve, by carefully considering how user involvement can inform service design and delivery of projects. ALONE continues to explore further integration of the standard across the organisation as a framework for continuous improvement of accessibility.

ALONE was recognised as an Early Adopter of EN 17161 in a November 2021 webinar titled '[A Universal Design for All Approach: Methods for a Culture of Co-Design](#)'. At the webinar ALONE discussed their experience with, and benefits from, integrating EN 17161 at their organisation.

Overview

EN 17161 can provide a framework for an organisation's procedures and processes to extend the range of users of its products and services, taking account of human diversity – the diverse range of characteristics and capabilities that people have. EN 17161 also helps organisations use a consistent approach for addressing accessibility, to help meet some of its statutory obligations.

In this project, selected parts of EN 17161 were used as a framework for applying a Universal Design approach to the provision of products and services to older people in order that they may live independently at home. EN 17161 requires an organisation to consider and involve a wide range of users in its design and procurement decisions to optimise accessibility and usability. It also calls for aligning with and applying relevant accessibility related resources and references.

Implementation of EN 17161 in the ALONE project processes influenced design decisions that improved effectiveness of the project's accessibility objectives. The approach in EN 17161 also complemented ALONE's use of the standards, EN 301 549:2021 'Accessibility requirements for ICT products and services' and ISO/IEC Guide 71 / CEN-CENELEC Guide 6:2014 'Guide for addressing accessibility in standards', to evaluate, select and procure accessible technology in the same project[1].

As part of the project follow-on activities, Appendix A displays text for a post project case study. ALONE states that it will integrate EN 17161 directly into its future strategies along with continuing with related staff training for further application of the standard.

ALONE Sláintecare project

The aim of the ALONE Sláintecare project was to provide technology and a broad range of services that work together in a collaborative and coordinated way to support older people to manage their own health and wellbeing, and to improve their local community's capacity to meet their needs.

The project had two key objectives:

1. To provide technology and services to support older people to better manage their health and remain living at home for longer.

2. To improve the community's capacity to meet the growing needs of older people through alignment, collaboration, common service models and training.

A key part of the project is to provide technology suited to the older person's needs that will enable each older person and their support network to manage the health of the older person and enable them to age well at home.

Use of EN 17161 by ALONE

The Centre for Excellence in Universal Design (CEUD) shared their expertise on the Universal Design approach and collaborated with ALONE on implementing EN 17161 during the development of their Sláintecare project in order to ensure that the technology and services that would be provided to the users would be suited to their accessibility and usability needs.

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[1] 'Guidance on Procurement of Technology through Application of EN 301 549' provides further information, including the application of EN 301 549 to procuring technology by ALONE as part of their Sláintecare project.

A Universal Design[2] approach is an approach to the design, development and provision of products and services that accounts for human diversity. It focuses on accessibility and usability from the earliest possible time and throughout all stages in the life of products and services including interoperability across the end-to-end chain of use. Applying this approach results in products and services that are more accessible, and an increase in the proportion of people able to participate fully and independently in society.

During the ALONE Sláintecare project, Universal Design experts from the CEUD, at the National Disability Authority (NDA), facilitated a workshop for ALONE that promoted the implementation of EN 17161 by ALONE. The workshop covered the relevant resources: EN 17161, ISO/IEC Guide 71 / CEN Guide 6, EN 301 549 and the Customer Communications Toolkit.

Key for this type of project was Annex C from EN 17161, which "provides a framework for activities in design and development projects to achieve design solutions that can be used by the widest range of users, including users with disabilities"[3]. Annex C complements Clause 8 in the standard, which contains requirements on:

- Establishing relevant process criteria

- Implementing appropriate process control

- Planning to extend the range of users

- Identifying the intended users and their diverse needs, characteristics, capabilities and preferences

- Identifying contexts of use

- Determining the resulting design specifications

Along with engaging experts on accessibility, EN 17161 also recommends use of relevant resources such as ISO/IEC Guide 71 / CEN-CENELEC Guide 6 to help with identifying and documenting a product / service user's characteristics and abilities. The Guide also helped to identify corresponding barriers experienced by persons with particular characteristics and abilities. These barriers were then used to identify the relevant 'Functional Performance Statements' found listed in the European standard EN 301 549 'Accessibility requirements for ICT products and services', which are the features a technology product must have for use when a physical, cognitive or sensory capability is not available or cannot be used by a person.

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[2] The terms Universal Design and Design for All are considered equivalent.
[3] See EN 17161:2019 Annex C.

These Functional Performance Statements from EN 301 549 could then be used to inform the procurement of technology that would be suitable for the individual user. Further information on using EN 301 549 in procurement is provided in an output of this project, in the document 'Guidance on Procurement of Technology through Application of EN 301 549'.

Another resource used in the project is a [Customer Communications Toolkit](#) that has design guidance to help inform the Universal Design of written, spoken and signed and digital communications.

Observations by ALONE

In the words of ALONE:

Impact

 "This standard allowed us to carefully consider user involvement in service design and delivery of projects. This was informed by real and verifiable user needs as gathered in this Sláintecare project, using the approach in this standard.

ALONE used the standard as an overarching guide for the design of our assistive technology training and support modules. These resources will be instrumental in the roll out of technology throughout ALONE's services, enabling our staff and family members support older people to adopt such assistive technologies.

In addition, we have provided video resources with sub-titles for set up and trouble-shooting of these devices, to allow for multiple means of interaction.

Based on the standard, we have categorised our technology offering based on user needs and requirements. We focus on the importance of accessibility and usability when researching, testing and procuring assistive technologies, including feedback from the older people we work with."

– ALONE, September 2021.

Further Implementation

"ALONE recognises the value that a Universal Design approach can have for the Older People we support. As a result, we have begun to implement a Universal Design approach into the organisation, firstly via our Assisted Technology Supports and Communications (website and print material) and next in our ongoing review of our policies and procedures, and delivery of ongoing training to staff and volunteers to ensure ongoing awareness of the concept of Universal Design. This will not be a one-off process but built into our processes and procedures to ensure continual review and improvement."

– ALONE, September 2021.

Summary of EN 17161 as a framework at ALONE

ALONE used the standard I.S. EN 17161 'Design for all – Accessibility following a Design for All approach in products goods and services – Extending the range of users as a framework in its Sláintecare project for addressing accessibility and usability.

As stated by ALONE, "This standard allowed us to carefully consider user involvement in service design and delivery of projects." ALONE continues to explore further integration of the standard as a framework for continuous improvement of accessibility. "ALONE recognises the value that a Design for All (Universal Design) approach can have … As a result, we have begun to implement a Universal Design approach into the organisation..."

ALONE was recognised as an Early Adopter of EN 17161 in a November 2021 webinar titled 'A Universal Design for All Approach: Methods for a Culture of Co-Design'. At the webinar ALONE discussed their experience with, and benefits from, integrating I.S. EN 17161 at their organisation.

The Centre for Excellence in Universal Design at the National Disability Authority worked with the European Standards committee to help develop I.S. EN 17161 and it continues to collaborate with organisations interested in integrating the standard.

Appendix A – Case Study – EN 17161 as Framework

Project overview
Who:
ALONE is a national organisation that supports and empowers older people to age happily and securely at home.

Statement on impact/change:
This standard allowed us to carefully consider user involvement in service design and delivery of future projects. This was informed by real and verifiable user needs as gathered in this Sláintecare project using the approach required in this standard.

This standard allowed us to consider how to extend the range of potential users and needs of our services in the project.

Most of our technology is decided upon based on the premise that there is interoperability using open source API's and compatible assistive technologies which correspond with the requirements in this standard.

As we work to implement a Universal Design approach it has provided us with a baseline from which we can look to continuously improve on in the coming months and years.

Project needs statement - what the project was, and why it was decided to use the standard – what need is being addressed
ALONE received Sláintecare funding for the project, 'ALONE BConnect: linking healthcare, social care and community care together using technology and services'. The project aims to identify and provide technology and services to support older people to manage their own health and wellbeing and live independently in their own homes for longer. The project also aims to improve the community's capacity to meet the needs of older people in CHO 9 (health services area).

In the project, ALONE will provide technology and services to 50 older people. We expect many of the older people involved in this project may have a physical, sensory or cognitive impairment explained in I.S. EN 17161, thus this standard will be particularly helpful in relation to understanding user needs, capabilities, characteristics and context of use.

The standard will highlight how we can apply design guidance to improve our communications to older people and thus services.

We plan to assess the technology we have available within the project and evaluate its performance based on the approach in the standard and confirm

who the technology might be suitable for and how well it performs in the context of it fulfilling the needs of the specified user.

Project Process

How the project was conducted – activities
CEUD held interactive and informative workshops to create understanding of the concept of the Universal Design for All approach documents.

Paired into groups (Tech working group, Comms working group) with some oversight from the lead in CEUD.

The team went back to CEUD with Annex C completed.

What particular aspects of the standard were used
Aspects that were referenced:

- ISO/IEC Guide 71:2014
- EN 17161:2019
- Section 3
- Section 7
- Section 8
- Annex B.3
- Annex B.4
- Annex C.4
- Annex C.5

How information was recorded
Created a document on the cloud that allowed all team members to contribute.

We already have a Quality Management System ("QMS") in place so we record each version of all finalised procedures at ALONE. Any changes of procedures are recorded through this. Having the QMS in place makes implementation of this standard a little easier for us than perhaps those that don't.

Findings
Key learning from the project was that the physical and cognitive needs and capabilities of the older people changed rapidly during the course of the project which was attributed to the onset and progression of dementia. As a result, ALONE identified that the user needs and capabilities should be reviewed more regularly.

ALONE found/understand the need to review the accessibility of certain documentation and communication in relation to technology projects including this Sláintecare project, including information booklets, consent

forms, and guides on using provided technologies to support independent living.

ALONE reviews its policies and procedures in line with the [ISO 9001:2015](#) Quality management standard, and this standard EN 17161 will be considered as part of the review process.

We strive to continuously improve in this area.

ALONE found that it was important to ensure that the appropriate staff/roles were involved at the start of the project to understand and support the implementation and impact it would have across the business.

The application and understanding of these standards have reinforced the importance of accessibility throughout the project.

Highlighted the need for evaluating specific technologies for specific user needs and characteristics.

As an organisation, we will continuously work to improve the accessibility of our services and technology provision, we will do this in line with EN 17161 when reviewing ISO standards.

Results statements – what was achieved as a result of implementation of the standard
Influenced the creation of a matrix used to identify technology that can support specific needs, capabilities and characteristics of potential users.

This better informed the usefulness of a suite of technologies for specified needs to support older people to live independently at home.

Highlighted the importance of accessibility in an end-to-end context, including the documentation, in person communication and gathering feedback from service users.

The importance of digital accessibility and communications has directly influenced the latter stages of our new website design.

The implementation of this standard informed the decision making process and design for all approach incorporated in the applications ALONE are developing as part of the Sláintecare project.

What's next – future plans
We will be incorporating the standard into our ongoing revision of policies, procedures and communications.

We would like to engage further with [CEUD](#) for their advisement in relation to ongoing guidance and support for all staff on the concept and overall principles of Universal Design.

We expect to implement the communications recommendations in future projects including: information booklets, consent forms, device hand-outs.

Summary quote

Implementing a new standard in an organisation can be a significant project but having identified the benefits of this standard for our Older People, implementing it has given us a structure and some tools to achieve the desired outcome - in our case, to be a leader in equal access to services to all.